

DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS4800 STOCKDALE HWY., SUITE # 417
BAKERSFIELD, CALIFORNIA 93309
(805) 322-4031

October 25, 1983

Mr. Bill Pfister
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD
3374 East Shields Ave., Room 18
Fresno, CA 93726

Dear Mr. Pfister:

Attached is an application from Laymac Corporation to conduct a waterflood project in the Upper Aqua zone in the Layman area, McDonald Anticline field.

The operator proposes to convert well "Layman" 16 to injection. Additional details are:

1. Geology - interbedded sands & shales. Large shale barrier overlying Upper Aqua zone.
2. Analysis of zone fluid - approximately 6178 ppm TDS. Analysis of zone water from injector will be made prior to injection.
3. Analysis of injection fluids - see attached.
4. Wells within the project area have been reviewed - see attached.
5. See attached maps for proposed well location and area of review.

Additional supportive data, which are interpretive and therefore confidential, are available for your inspection at this office.

The proposed injection zone has been exempted by the EPA.

Please submit to this office any comments you may have on this proposed project. Your comments are due within 14 calendar days from the date of this letter.

Yours truly,

Hal Bopp
Senior Oil & Gas Engineer

HB:mmn

Attachments

cc: -EPA ✓
-DWR

Submitted By: Laymac Corporation
P. O. Bin 2427
Bakersfield, California 93303
Attention Mr. Carl R. Fanshier

Date Reported: 9/16/81
Date Received: 8/28/81
Laboratory No.: 9904

Marked: Layman Wash Tank 8/24/81

WATER ANALYSIS

Sample Description

pH ----- 8.0
E.C. Micromhos/cm ($K \times 10^6$)
@ 25°C (salinity) ----- 7500.
Resistivity, Ohm M²/M ----- 1.33

Constituents, P.P.M. (parts per million)

Boron, (B)	-----	3.2
Calcium, (Ca)	-----	14.
Magnesium, (Mg)	-----	11.
Sodium, (Na)	-----	2025.
Potassium, (K)	-----	24.5
Carbonates, (CO ₃)	-----	0.
Bicarbonates, (HCO ₃)	-----	3765.4
Chlorides, (Cl)	-----	934.6
Sulphates, (SO ₄)	-----	128.
Nitrate, (NO ₃)	-----	(-) 0.4
Fluoride, (F)	-----	2.00
Total Iron, (Fe)	-----	(-) 0.05
Copper, (Cu)	-----	
Manganese, (Mn)	-----	(-) 0.01
Chromium, (Cr)	-----	
Zinc, (Zn)	-----	(-) 0.01
Aluminum (Al)	-----	(-) 0.1
Silica, (SiO ₂)	-----	32.
Lithium, (Li)	-----	
Lead, (Pb)	-----	
Phenol	-----	
Sulfides as H ₂ S	-----	
Total Hardness as CaCO ₃	-----	80.3 (4.7 gr/gal)
Oil (chloroform extractable)	-----	
Total Dissolved Solids	-----	6940.
Total Suspended Solids	-----	

(-) refers to "less than".

B C LABORATORIES, INC.

J. J. Eglar

PROJECT AREA REVIEW

A review of wells within a 1/4-mile radius indicates that Ferguson & Bosworth wells "Anderson" 17-1 and 17-3, Sec. 17, T. 28S., R. 20E., are open holes with no barrier to migration. However, this project is recommended for approval because:

1. There is most likely a fault to the east of the injection well, "Layman" 16, creating a barrier to migration in that direction.
2. As part of a waterflood, this injection well will be closely monitored. If the project does not respond properly, it will not be continued.
3. Injection into waterflood wells in other zones in the immediate vicinity has been conducted since 1970. Realistically, any damage in this area would have already occurred.
4. There appears to be no usable ground waters in McDonald Anticline. Surface disposal of produced waste water is allowed.



